

Application Serial No. 09/117,447

Sub 93  
E1

(i) a nucleic acid comprising a nucleotide sequence from position 1 to 3684 of SEQ ID NO.1,

(ii) a nucleic acid comprising a nucleotide sequence corresponding to the nucleic acid of (i) within the scope of the degeneracy of the genetic code, and

(iii) a nucleic acid comprising a nucleotide sequence which hybridizes with at least one of the nucleic acids of (i) or (ii) under stringent conditions;

(b) culturing the host cell under conditions which induce expression of the nucleic acid and production of the corresponding protein, and

(c) isolating the protein from the host cell.

Sub 93  
E2

15. (Twice Amended) A nucleic acid encoding a full-length, crystalline recombinant S-layer protein selected from the group consisting of

(i) a nucleic acid comprising a nucleotide sequence from position 1 to 3684 of SEQ ID NO. 1,

(ii) a nucleic acid comprising a nucleotide sequence corresponding to the nucleic acid of (i) within the scope of the degeneracy of the genetic code, and

(iii) a nucleic acid comprising a nucleotide sequence which hybridizes with at least one of the nucleic acids from (i) or (ii) under stringent conditions, wherein the nucleic acid contains at least one peptide or polypeptide-coding insertion within the region encoding the S-layer protein.

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66. (Twice Amended) A process for production of a crystalline S-layer protein comprising

a) transforming a gram-negative prokaryotic host cell with a full-length nucleic acid encoding an S-layer protein which comprises at least one insertion encoding peptide or polypeptide sequences and selected from the group consisting of

(i) a nucleic acid comprising a nucleotide sequence from position 1 to 3684 of SEQ ID NO.1,

(ii) a nucleic acid comprising a nucleotide sequence corresponding to the nucleic acid of (i) within the scope of the degeneracy of the genetic code, and

(iii) a nucleic acid comprising a nucleotide sequence which hybridizes with at least one of the nucleic acids of (i) or (ii) under stringent conditions;

(b) culturing the host cell under conditions which induce expression of the nucleic acid and production of the corresponding protein, and

(c) isolating the protein from the host cell.

### REMARKS

The Office Action dated July 16, 2001 and the Advisory Action of November 6, 2001 has been received and carefully noted. The above amendments and the following remarks are submitted as a full and complete response thereto.

Claims 1-17, 19-24, 26, 28-30, 32-34 and 37-65 are all the pending claims in this application. By this Amendment, claims 1, 15 and 66 have been amended, support for which can be found as follows: